AccuPNT™ CLAW™ GNSS Simulator and Transcoder

The CLAW Simulator is a compact, full-constellation GPS simulator and legacy transcoder. It provides real-time GPS L1 C/A signal generation with up to 18 simultaneous channels. The CLAW enables accurate testing of legacy and modern GNSS receivers including DAGR, GB-GRAM, MicroGRAM, and u-blox receivers. It is ideal for research and development, manufacturing, and field test environments, supporting both fixed and dynamic simulation scenarios with external or internally stored motion data.

Built-in simulation logic enables standalone operation without a host PC, and the included SimCon™ utility provides full control and monitoring via USB. The CLAW is fully operational using the USB input for power input and control.

Typical Specifications

Module Specifications	
RF Output	
Output Bands	1575.42 MHz (GPS L1 C/A)
Power Level	-100 to -145 dBm
RF Power Accuracy	±1.5 dB
Position Accuracy	< 0.5 m RMS
Timing Accuracy	< 5 ns RMS
DC Block	Protection to 16 VDC, when enabled
DC Load	Up to 6 VDC, 186 ohms
Spectral Purity	
In-Band Spurious	< -33 dBc (L1, ±20 MHz)
Out-of-Band Spurious	< -80 dBm
Harmonics of L1	< -150 dBm
Internal GNSS Receiver	
Monitoring Functions	Background monitoring of RF output power and RF signal quality
Receiver Type	u-Blox EVA-M8Q-0
External GNSS Receiver Compatibility	
Any NMEA-compatible source	
Direct control of Rockwell Collins/BAE Systems GB-GRAM, MicroGRAM SAASM GPS, and u-Blox GNSS Receivers	

CLAW Front Panel Connector

CLAW Rear Panel Connectors

Typical Specifications continued

I/O Connectors	
Connector	*Description/Functions*
10 MHz Input	16-pin Hirose connector – pin 13, CMOS or TTL
1 PPS Input	16-pin Hirose connector – pin 11, CMOS or TTL
10 MHz Output	16-pin Hirose connector – pin 5, 3.3 V CMOS
1 PPS Output	16-pin Hirose connector – pin 10, 3.3 V CMOS
RF Output	SMA(f)
USB Control	Mini-USB, Power and SCPI-99 Control at 9.6 k, 19.2 k, 38.4 k, 57.6 k, 115.2 k baud rates supported
Serial Control	RS-232, SCPI-99 Control
16-pin, 2 mm Hirose	DF11C-16DP-2V-57
USB SCPI Control/Monitoring Port	Compatible with any terminal program, JLTerm, GPSCon, SimCon software
Power	
Power Consumption	<1.2 W typical
Power Supply	Mini-USB (4.5 V to 5.5 V, 5 V nominal)
	DC Supply (6.5 V to 32 V, 12 V nominal)
Environmental	
Temperature	
Operating Temperature	-40°C to +70°C
MTBF	> 600,000 Hours at +40°C
Regulatory and Compliance	
Regulatory Standards	RoHS
Military Standards	MIL-PRF-28800F (Class 3 Device)
Physical	
Weight	3.68 oz (103 g)
Width	2.3 inches (5.842 cm)
Depth	3.8 inches (9.652 cm)
Height	1.1 inches (2.794 cm)

Ordering Information

Catalog Number	22174895
Description	CLAW Desktop Simulator 18 Channel - RoHS

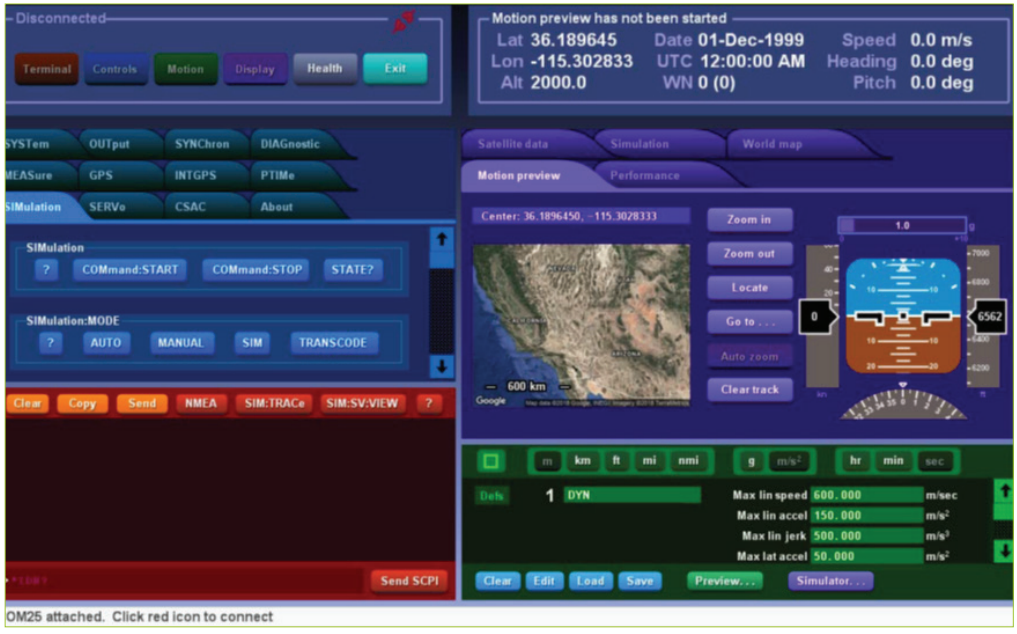
Standard Accessories

6 ft, 1.83 m Mini-USB Cable (for power input and operational control[1])
SMA DC Block
SMA Fixed Attenuator 10 dB
SMA Fixed Attenuator 20 dB
North America Plug-in Power Adapter – 12 V, 2 A, 24 W, 16 pin connector (16 pin connector is intended for lab use and external inputs[1])

[1] See user manual for additional information for proper usage.

SimCon™ Control Software

SimCon is a Microsoft® Windows® application used to configure and control the CLAW Simulator. It offers:



Terminal Window: SCPI command monitoring and control

Controls Panel: Organized SCPI command categories

Display Panel: Maps, satellite tracks, performance plots

Motion Panel: Design and preview dynamic motion scenarios

Health Panel: Visual health indicators of the connected device

Performance Monitoring: Real-time analysis of external GNSS receiver accuracy including horizontal, vertical, and 1 PPS timing error plots

Standalone Preview Mode: Simulate motion scenarios within SimCon without hardware

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